

Community Greenhouse Gas Emissions in 2002

Detailed Report

	Equiv CO ₂ (tonnes)	Equiv CO ₂ (%)	Energy (GJ)
Residential			
Warrenton, Virginia			
<i>Warrenton Residential Buildings</i>			
Electricity	17,407	14.1	118,012
Light Fuel Oil	473	0.4	6,657
Natural Gas	10,613	8.6	199,734
Propane	667	0.5	10,712
Fuelwood (Air Dry)	9	0.0	1,183
<i>Subtotal Warrenton Residential Buildings</i>	29,169	23.6	336,297

1) The electrical information supplied by Glenn Etheridge, Regulatory Advisor at Dominion Power.

Phone-804-771-3056

Email-glenn.etheridge@dom.com

2) Natural Gas information supplied by Melinda Bateman at Columbia Gas.

Phone-1-800-440-6111

3) Propane, fuel oil, and wood were hard figures to get any information on. Virginia Tech student researchers came up with a spreadsheet to estimate these figures in Blacksburg. Damian Pitt, PhD student in Planning, Governance, and Globalization, was kind enough to get permission for me to use the spreadsheet. To come up with their spreadsheet, the students "assumed that the majority of homes still relying on these "other" fuels for heating are older home, and are not likely to be very energy efficient. Therefore, the spreadsheet included R-values for ceilings, windows, doors, walls, and floors that would be roughly equivalent to the minimum level of insulation needed to satisfy most current energy-efficient building codes. The homes were also assumed to be relatively small (1500 sq. ft.). The spreadsheet also assumed other values, such as for internal heat gains, indoor set point, heating degree days, and design temperature that are considered appropriate for the Blacksburg area." (APPENDIX D-USE OF OTHER FUELS FOR RESIDENTIAL HEATING, VIRGINIA TECH SPREADSHEET)

The student researchers then used the year 2000 census figures to determine how many houses used these fuels and used those figures to enter into their spreadsheet. (dpitt@vt.edu)

4) After reviewing their figures, I determined I would have to find heating degree days for the Warrenton area and Census figures for the Town of Warrenton.

5) I used The Weather Underground internet site to find Warrenton's weather history.

Culpeper Airport, 22.7 miles South of Warrenton was the closest locale with the needed data

In 2002, our base year, the total heating degree days figure was 4001DD.

(<http://www.wunderground.com>)

6) According to the last US Census in the year 2000, 138 houses used bottled gas, 87 used fuel oil, and 20 houses used wood for sole source of heating in the Town of Warrenton.

(<http://www.census.gov>)

7) These figures were entered into the Virginia Tech spreadsheet to estimate The Town of Warrenton's usage of propane, fuel oil, and wood in 2002.

Subtotal Residential	29,169	23.6	336,297
Commercial			
Warrenton, Virginia			
<i>State Government Buildings</i>			
Electricity	520	0.4	3,524
<i>Subtotal State Government Buildings</i>	520	0.4	3,524

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<i>Warrenton Commercial Buildings</i>			
Electricity	33,862	27.4	229,564
Natural Gas	10,373	8.4	195,209
<i>Subtotal Warrenton Commercial Buildings</i>	44,234	35.8	424,772
Subtotal Commercial	44,754	36.2	428,297
Industrial			
<i>Warrenton, Virginia</i>			
<i>Warrenton Industrial Buildings</i>			
Electricity	591	0.5	4,006
Natural Gas	214	0.2	4,035
<i>Subtotal Warrenton Industrial Buildings</i>	805	0.7	8,041
<i>Warrenton Industrial Buildings Natural Gas</i>			
Natural Gas	2,144	1.7	40,350
<i>Subtotal Warrenton Industrial Buildings Natural Gas</i>	2,144	1.7	40,350
Subtotal Industrial	2,949	2.4	48,391
Transportation			
<i>Warrenton, Virginia</i>			
<i>Community Transportation</i>			
Gasoline	35,891	29.1	486,245
Diesel	7,306	5.9	97,873
<i>Subtotal Community Transportation</i>	43,197	35.0	584,118
Subtotal Transportation	43,197	35.0	584,118
Waste			
<i>Warrenton, Virginia</i>			
<i>Fauquier County Landfill</i>		<i>Disposal Method - Managed Landfill</i>	
Paper Products	2,598	2.1	
Food Waste	503	0.4	
Plant Debris	219	0.2	
Wood/Textiles	77	0.1	
<i>Subtotal Fauquier County Landfill</i>	3,397	2.8	

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1) This info provided by Donna Pullen at Public Works.
Phone(540-347-1858)

2) Waste share percentages used are the typical percentages from U.S. communities from data figures of USEPA as of August 2002.

3) Local government waste figures were subtracted from community "Amount of Waste".

Subtotal Waste	3,397	2.8
Total	123,467	100.0
		1,397,104
